1 CLAIMS

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- 3 Claim 1. A cutting guide for preparing vertebral incisions,
- 4 comprising:
- a) a planar forward end having a curved edge and a
- 6 straight edge, wherein said curved edge is shaped to approximate
- 7 the shape of the anterior portion of the vertebral surfaces of
- 8 adjacent vertebrae and said straight edge is shaped to guide a
- 9 surgical blade making an incision; and
- 10 b) a handle extending outward from said straight edge
- of said planar forward end.
- 12 Claim 2. The cutting guide in accordance with claim 1
- wherein said handle is placed for lateral insertion into a disk
- 14 space.
- 15 Claim 3. The cutting guide in accordance with claim 1
- wherein said handle is placed for anterior insertion into a disk
- 17 space.
- 18 Claim 4. A distractor for separating and stabilizing
- 19 adjacent vertebrae comprising:
- a frame comprising;

- a) a right vertical rail and a left vertical rail
- 2 wherein said right vertical rail and said left vertical rail each
- 3 comprise an upper leg having external screw threads and a lower
- 4 leg without external screw threads and wherein each of said upper
- 5 legs and each of said lower legs have an aperture near the end
- 6 portion;
- 7 b) a top cross member connecting said upper legs; and
- 8 c) a bottom cross member connecting said lower legs.
- 9 Claim 5. A cutting block for preparing vertebral surfaces
- 10 for prosthesis implant comprising:
- a) a plate having an upper horizontal cutting slot and
- 12 a lower horizontal cutting slot;
- b) a flange on a right side of said plate; and
- c) a flange on a left side of said plate.
- 15 Claim 6. The cutting block in accordance with claim 5
- wherein said plate of a) further comprises a hole at each corner.
- 17 Claim 7. The cutting block in accordance with claim 5
- 18 further comprising a retractor affixed along the side of either
- said flange of b) or said flange of c).
- Claim 8. The cutting block in accordance with claim 6

- 1 further comprising a retractor affixed along the side of either
- 2 said flange of b) or said flange of c).
- 3 Claim 9. An artificial implant for spinal disk replacement
- 4 comprising;
- a) a superior body for attachment to a superior
- 6 vertebral surface;
- b) an inferior body for attachment to an inferior
- 8 vertebral surface; and
- 9 c) a fixed, constrained bearing between said superior
- 10 body and said inferior body wherein a surface of said fixed,
- 11 constrained bearing is complementary to a surface of said
- superior body and a surface of said inferior body.
- 13 Claim 10. The artificial implant in accordance with claim 9
- 14 wherein said superior body, said inferior body and said fixed,
- 15 constrained bearing are composed of a bio-inert material selected
- from the group consisting of surgical stainless steel, ceramics,
- polymers, metals, polyethylene and combinations thereof.
- 18 Claim 11. An artificial implant for spinal disk replacement
- 19 comprising;
- a) a superior body for attachment to a superior
- 21 vertebral surface;

- b) an inferior body for attachment to an inferior
- vertebral surface; and
- 3 c) a fixed, semi-constrained bearing between said
- 4 superior body and said
- 5 inferior body wherein a surface of said fixed, semi-constrained
- 6 bearing is complementary to a surface of said superior body and a
- 7 surface of said inferior body.
- 8 Claim 12. The artificial implant in accordance with claim 11
- 9 wherein said superior body, said inferior body and said fixed,
- semi-constrained bearing are composed of a bio-inert material
- 11 selected from the group consisting of surgical stainless steel,
- 12 ceramics, polymers, metals, polyethylene and combinations
- 13 thereof.
- 14 Claim 13. An artificial implant for spinal disk replacement
- 15 comprising;
- a) a superior body for attachment to a superior
- 17 vertebral surface;
- 18 b) an inferior body for attachment to an inferior
- 19 vertebral surface; and
- c) a mobile bearing between said superior body and said
- 21 inferior body wherein a surface of said mobile bearing is
- 22 complementary to a surface of said superior body and a surface of

- 1 said inferior body.
- Claim 14. The artificial implant in accordance with claim 13
- 3 wherein said superior body, said inferior body and said mobile
- 4 bearing are composed of a bio-inert material selected from the
- 5 group consisting of surgical stainless steel, ceramics, polymers,
- 6 metals, polyethylene and combinations thereof.
- 7 Claim 15. An artificial implant system for the repair of
- 8 vertebral facets comprising:
- a) a first implant shaped as a cap for fitting over and
- 10 attaching to an inferior vertebral facet; and
- b) a second implant shaped as a button for attachment
- 12 to a superior vertebral facet.
- 13 Claim 16. The artificial implant system in accordance with
- 14 claim 15 wherein said first implant is composed of polished metal
- and said second implant is composed of polyethylene or
- 16 polyethylene backed by metal.
- 17 Claim 17. A surgical kit for disk arthroplasty comprising
- 18 instruments and an artificial implant wherein said instruments
- 19 are a sizing instrument, a distractor and a cutting block and
- 20 said artificial implant has a fixed, constrained bearing.

- Claim 18. A surgical kit for disk arthroplasty comprising instruments and an artificial implant wherein said instruments are a sizing instrument, a distractor and a cutting block and said artificial implant has a fixed, semi-constrained bearing.
- Claim 19. A surgical kit for disk arthroplasty comprising instruments and an artificial implant wherein said instruments are a sizing instrument, a distractor and a cutting block and said artificial implant has a mobile bearing.
- 9 Claim 20. A surgical kit for vertebral facet arthroplasty 10 comprising instruments, a first artificial implant and a second 11 artificial implant wherein said instruments are a sizing instrument, a distractor and a cutting block and said first 12 artificial implant is shaped like a cap for fitting over and 13 attaching to an inferior vertebral facet and said second 14 artificial implant is shaped as a button for attaching to a 15 16 superior vertebral facet.
- 17 Claim 21. A method for preparing a vertebral site for receiving an artificial implant comprising the steps of:
- a) measuring the vertebral space with a sizing instrument;
- 21 b) making a first incision in a superior vertebrae

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- 1 along a straight edge of said sizing instrument;
- c) making a second incision in an inferior vertebrae
- 3 along a straight edge of said sizing instrument;
- d) stabilizing said superior vertebrae and said
- 5 inferior vertebrae by mounting a distractor between said superior
- 6 vertebrae and said inferior vertebrae;
- e) expanding said distractor to approximate a natural
- 8 disk space between said superior vertebrae and said inferior
- 9 vertebrae;
- 10 f) inserting a cutting block into said distractor and
- 11 preparing the inferior surface of said superior vertebrae and the
- 12 superior surface of said inferior vertebrae by excising damaged
- disk material; and
- 14 g) removing said cutting block and said distractor whereby
- 15 said vertebral site is prepared to receive said artificial
- 16 implant.
- 17 Claim 22. The method in accordance with claim 21 further
- 18 comprising a step of inserting an artificial implant into a
- 19 prepared vertebral site wherein said artificial implant has a
- fixed bearing or a mobile bearing.
- 21 Claim 23. The method in accordance with claim 22 wherein
- 22 said fixed bearing is constrained or semi-constrained.